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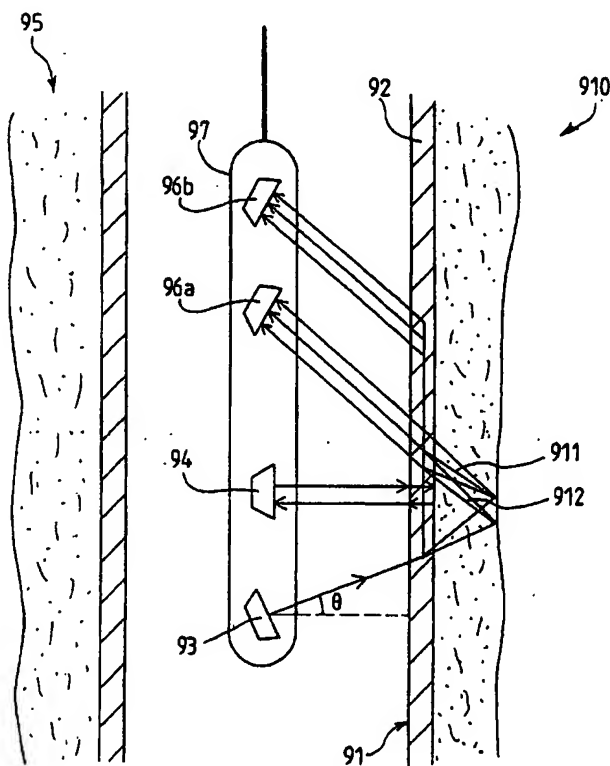
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(54) Title: **MULTIMODE ACOUSTIC IMAGING IN CASED WELLS**



(57) Abstract: A well casing is insonified with a first acoustic wave in a first mode that may be any mode of a set including: extensional mode, thickness mode, flexural mode. A first echo is received at a first acoustic transducer for receiving, a first signal is produced and a first measurement is extracted from the first signal. The casing is then insonified with a second acoustic wave in a second mode that may be any mode of the set of modes but is distinct from the first mode. A second echo is received at a selected second acoustic transducer for receiving and a second signal is produced. A second measurement is extracted from the second signal. The zone behind the casing of the well is evaluated from a combination of the first measurement and the second measurement.

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